Docket No.: K-0632 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of
Chang Nam KIM

Serial No.: **10/829,209**

Filed: **April 22, 2004**

Confirmation No.: **5528**

Group Art Unit: **1734**

Examiner: **Tadesse, Yewebdar T.**

Customer No.: 34610

For: **ORGANIC ELECTROLUMINESCENT DEVICE FOR FABRICATING SHADOW MASK**

PRE-APPEAL BRIEF REQUEST FOR REVIEW

U.S. Patent and Trademark Office
Customer Service Window - **Mail Stop AF**
Randolph Building
401 Dulany Street
Alexandria, Virginia 22314

Sir:

Applicant requests review of the final rejection in the above-identified application. No amendments are filed with this Request. This Request is being filed with a Notice of Appeal.

I. Applicability of the Applied Prior Art References

MPEP 2141.01(a) states:

> "[I]n order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonable pertinent to the particular problem with which the inventor was concerned."

Applicant maintains the position that Suzuki, Im, Yamauchi and Wolk are each non-analagous art, and thus not properly applied in a rejection of the present application, as set forth in numerous previously filed replies. The claims of the present application are directed to a mask that blocks adjacent deposition areas or sub-pixels during deposition of a luminescent layer (see paragraphs 32-38 and Figs. 4A-4F). Once the pixel electrodes 48 have been formed atop the insulating layer 46 and extending into the vias 47 and the insulating boundaries 49 have been formed between adjacent pixels, a mask 170 is superposed on this structure to expose only portion(s) of the pixel electrode 48 to be coated with an organic electroluminescent layer 50 (see

Fig. 4E). The inner side edges of the holes in the mask 170 are specifically shaped so that when the organic layer 50 is applied, an active area is maximized and a dead area is minimized (see paragraphs 42-44 and Figs. 6A-6B) to improve resolution.

In contrast, the shadow mask 25 disclosed by Suzuki includes apertures 31 through which light beams are directed onto a front panel of a CRT so as to generate a desired image. One of ordinary skill in the art understands that this type of shadow mask 25 must be maintained in its position adjacent the front panel, and not be removed, to maintain proper functionality of the CRT, and that this type of shadow mask is not used in an electroluminescent device, let alone to block adjacent areas during deposition of organic material. Im and Yamauchi each suffer deficiencies similar to Suzuki in this respect. Further, Suzuki's disclosure is directed at an apparatus for making this non-analagous art mask, and not the non-analagous art mask itself. Accordingly, it is respectfully submitted that Suzuki, Im and Yamauchi are each in a different field of endeavor than the masks set forth in the present application, and thus are not reasonably pertinent to solving the various issues set forth therein.

Wolk discloses a system for orienting and patterning organic emissive materials, including an organic electroluminescent display 800 including a substrate 810, an anode 820, a plurality of patterned hole transport layers 830, an emission layer 840, and a cathode 850. The hole transport layers 830 are not a series of holes forming a mask, but rather a layer whose elements have been patterned and aligned to allow recombination with electrons from the anode 820 in the emission layer 840. One of ordinary skill in the art would understand that the holes discussed in Wolk's disclosure are not holes in any type of mask, and in particular, a mask for use during deposition of a luminescent layer of an organic electroluminescent device, as recited in the claims of the present application. Accordingly, it is respectfully submitted that Wolk is

also in a different field of endeavor than the masks set forth in the present application, and thus is not reasonably pertinent to solving the various issues set forth therein.

II. Rejections Under 35 U.S.C. §103(a)

The Office Action rejects claims 1, 4, 5, 11 and 18-27 under 35 U.S.C. §103(a) over U.S. Suzuki, Im and Yamauchi. This rejection is respectfully traversed.

Independent claim 1 is directed to a mask for use during fabrication of an organic electroluminescent device, including a plurality of bridges located between adjacent slots of a plurality of strip-type slots, wherein a thickness of the mask in areas corresponding to each of the plurality of bridges is less than a thickness of the mask in areas of the mask having no angled surface portions. Independent claim 11 recites similar features in varying scope. Applicant maintains the position that Suzuki, Im and Yamauchi are each non-analagous art. However, even if improperly applied, Suzuki, Im and Yamauchi, either alone or in combination, still neither disclose nor suggest such features, or the respective claimed combinations of features.

Suzuki discloses a shadow mask 25 for use with a CRT, including rectangular apertures 31 separated by bridge portions 32. Suzuki's mask 25 has a constant thickness, with the bridge portions 32 having the same thickness as the other portions of the mask 25 (see Figs. 2, 3, 5, 8 and 10). Suzuki neither discloses nor suggests that a thickness of the bridge portions 32 is less than a thickness of the other areas of the shadow mask 25, as recited in claims 1 and 11.

Im discloses a tension mask assembly 10 for a CRT formed of a metal foil 11, including a plurality of slots 13 formed between a plurality of strips 12, with real bridges 14 supporting the slots 13, and dummy bridges 15 connecting the strips 12 and the slots 13. Im neither discloses nor suggests that a thickness of the either the real bridges 14 or the dummy bridges 15 is less than a thickness of the other areas of foil 11 which form the tension mask 10, as recited in

claims 1 and 11.

Yamauchi discloses a shadow mask 10 including a plurality of slots 14 connected by a plurality of bridges 15 whose inner surfaces are inclined in parallel with electron beams passing therethrough. Yamauchi neither discloses nor suggests that a thickness of the bridges 15 is less than a thickness of the other areas of the shadow mask 10, as recited in claims 1 and 11.

Accordingly, it is respectfully submitted that independent claims 1 and 11, as well as claims 4, 5 and 18-27, which depend respectively therefrom, are allowable over Suzuki, Im and Yamauchi, and thus the rejection should be withdrawn.

The Office Action rejects claims 29-33, 35 and 36 under 35 U.S.C. §103(a) over Suzuki, Yamauchi and Wolk. This rejection is respectfully traversed.

Independent claim 29 is directed to a mask for use during deposition of a luminescent layer of an organic electroluminescent device, including a plurality of strip-type slots, wherein a thickness of the mask in areas of the mask positioned between adjacent slots is less than a thickness of the mask in areas of the mask having no angled surface portions. Applicant maintains the position that Suzuki, Yamauchi and Wolk are non-analagous art. However, even if improperly applied, Suzuki, Yamauchi and Wolk still neither disclose nor suggest such features, or the claimed combination of features.

More specifically, as set forth above, Suzuki and Yamauchi neither disclose nor suggest such features. Further, Wolk is merely cited as allegedly teaching slot alignment, and thus fails to overcome the deficiencies of Suzuki and Yamauchi. Accordingly, it is respectfully submitted that independent claim 29, as well as claims 30-33, 35 and 36, which depend therefrom, are allowable over the applied combination, and thus the rejection should be withdrawn.

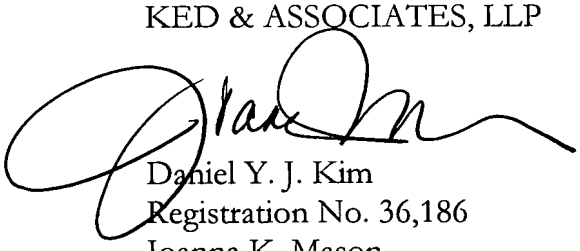
The Office Action rejects claims 28, 34 and 37 under 35 U.S.C. §103(a) over Suzuki and

Im, or alternatively, over Suzuki, Yamauchi and Wolk in view of Korean Patent Publication No. 2001-087952 (hereinafter "KR '952"). The rejection(s) are respectfully traversed.

Dependent claims 28, 34 and 37 are allowable over Suzuki, Im, Yamauchi and Wolk at least for the reasons set forth above with respect to independent claims 1, 22 and 29, from which they respectively depend, as well as for their added features. Further, KR '952 is merely cited as allegedly teaching shapes of slots, and thus fails to overcome the deficiencies of Suzuki, Im, Yamauchi and Wolk. Accordingly, it is respectfully submitted that claims 28, 34 and 37 are allowable over the applied combination(s), and thus the rejection(s) of claims 28, 34 and 37 under 35 U.S.C. §103(a) over Suzuki, Im, Yamauchi, Wolk and KR '952 should be withdrawn.

Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,
KED & ASSOCIATES, LLP



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Date: **April 11, 2007**